

(3 Hours)

[Total Marks : 80

N.B.: 1) Question No.1 is compulsory.

2) Attempt any **FOUR** questions from Q Nos. 2 to 6.

- Q 1 (A) Explain features of object oriented programming and write difference between C++ and C language [10]
- (B) What is inheritance? With suitable diagram explain types of inheritance supported in C++. [10]
- Q 2 (A) What are manipulators? Write a program using any four manipulators that take parameter. [08]
- (B) Write a program to create class Stack to store integer elements with top as member variable and write functions push() and pop() to insert and display the element in stack respectively. [07]
- Q 3 (A) What is Operator Overloading? Why all operators cannot be overloaded in C++ [08]
- (B) What is Exception Handling? How is it implemented in C++ explain with suitable program [07]
- Q 4 (A) What is use of constructors and destructors? Explain different types of constructors with suitable example. [08]
- (B) What is STL? Explain any two containers and any two algorithms in detail [07]
- Q 5 (A) What are access specifiers? Write a C++ program using suitable specifiers to apply them to member variable and member functions to create a class Book [08]
- (B) Write a program to overload binary + operator for class Complex to add two complex numbers. [07]
- Q 6 (A) What is function overloading? Write a program to overload member function display() for class Person add suitable member variables to the class. [08]
- (B) What is stream? Explain hierarchy of stream classes with suitable diagram [07]
- Q 7 Write Short note on any **THREE** [15]
1. function with default arguments
 2. virtual function
 3. friend function
 4. inline function